



Research Project Statement 24-035 FY 2024 Annual Program

Title:	Use Network Level Texture to Enhance Pavement Management
The Problem:	TxDOT has a contract to collect pavement distresses and ride on the entire TxDOT roadway network on an annual basis. The contractor recently collected texture which is currently not being used to determine any scores or to support maintenance and rehabilitation decisions. Texture is a good indicator of surface conditions, and this type of data can support and enhance pavement management decisions. Currently, TxDOT districts don't know how to use texture data in their pavement management decision-making process. This research will assess the accuracy of texture data and provide guidance on potential texture data applications.
Technical Objectives:	<p>Texture is a valuable property that should be incorporated into the pavement management decision-making process. Texture is collected continuously for the entire network so understanding surface texture properties will help in identifying areas of low skid and hot spots immediately so TxDOT can implement corrective action and therefore increase the safety of our roads. The objectives of this research are:</p> <ul style="list-style-type: none"> • Analyze the texture data that has been collected and process the data to calculate properties that can be used to enhance pavement management decisions. • Analyze skid number data available in Pavement Analyst that correlates to the texture data and evaluate the correlations between texture and friction. • Develop, test and validate a model that can use texture to predict friction. • Investigate and define additional uses of texture data and recommend how to incorporate texture into pavement management decisions. • Recommend how to process and analyze texture data to enhance pavement management decisions, and how to affect decision tress and use this information in the 4-Year Plan. <p>The expected technology readiness level (TRL) for this project is 8.</p>
Anticipated Deliverables:	<ol style="list-style-type: none"> 1. Technical memorandum for each task completed. 2. Monthly progress reports. 3. Value of Research (VoR) that includes both qualitative and economic benefits, to be included in the final research report. This is not a stand-alone deliverable. 4. Product P1: Recommendations for improvements to the repair methods and materials that includes general information and best practices information booklets. 5. Product P2: Recommendations for a procedure including tools to determine limits and types of repairs. 6. Product P3: Recommendations for a procedure to evaluate the performance of the repairs. 7. Research report documenting the findings of the research, including existing best practices used to perform in-house repairs. 8. Project Summary Report
Proposal Requirements:	<ol style="list-style-type: none"> 1. Project duration shall not exceed 36 months. 2. Proposal Deadline: 12:00 p.m. Central Time, Monday, March 6, 2023. 3. RFP#1 Q&A Deadline: 12:00 p.m. Central Time, Wednesday, February 1, 2023. 4. Use the current "ProjAgre" and "PA Forms" templates located at the RTI Forms webpage. 5. Proposals will be considered non-responsive and will not be accepted for technical evaluation if they are not received by the deadline or do not meet the requirements stated in RTI's University Handbook. 6. Proposals should be submitted in PDF format; (1) PDF file per proposal. File name should include project name and university abbreviation. 7. This project will be tracked during the life of the project using the Technology Readiness Level (TRL) scale. 8. The 2021 Texas Legislative Session requires that universities be in compliance with Senate 9. Bill 475 by submitting a completed and signed TxDOT Security Questionnaire (TSQ) to RTIMAIN@txdot.gov in advance of a proposal submission. Universities found to not submit a completed and signed TSQ in advance of proposal submitting will be held in non-compliance and unable to participate in the Program.